

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 13-19 are amended. Support for the amendment is found, e.g., in the specification on pages 12-13. No new matter is added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 11-19 and 21-22 are now pending in this application.

REJECTION UNDER 35 U.S.C. § 103.

Claims 13-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishino *et. al.* (US patent 4,256,728) taken with Oikawa *et. al.* (US patent 4,831,011).

“Nishino teaches plural beds which can be active carbon”, however, it “does not teach the active carbon treated by the method claimed” in the instant application as admitted by the PTO on Page 2 of the Office Action. Oikawa discloses “heat-treated PAN or pitch based carbon in exhaust gas purification” and PTO does not see differences between Oikawa’s carbon and the carbon of the instant invention. Based on that, the PTO concludes that “it would have been obvious to use the active carbon of Oikawa in the beds of Nishino” (Office Action, page 2) and rejects Applicants’ claims. Applicants respectfully traverse the rejection.

In particular, applicants disagree with the PTO’s assessment that there is no difference between the heat treated active carbon disclosed by Oikawa and the heat treated carbon of the instant invention. Oikawa discloses active “carbon fibers produced by oxidizing treatment of such fibers as polyacrylonitrile fibers, cellulosic fibers, pitch fibers, or phenolic resin fibers, followed by activating treatment of the resulting fibers using an activating gas, e.g. steam,

carbon dioxide, or ammonia gas at a temperature of about 700° to 1300°C”, see Oikawa, column 6, lines 15-21. In contrast to Oikawa, a heat treated active carbon fiber of the present invention is produced by heat-treating a raw active carbon fiber at 600 to 1,200°C in a non-oxidizing atmosphere. This limitation, which is already present in the examined claims 17-19, is introduced in the amended claims 13-16 in the instant communication. Applicants note that it is well known to one of ordinary skill in the art that ammonia gas, steam carbon and carbon dioxide are oxidizing gases. Consequently, the heat treated carbon of the instant invention is different from the heat treated carbon of Oikawa. Producing the heat treated carbon fiber by heat treating a raw active carbon fiber in a non-oxidizing atmosphere is critical for the instant invention as it allows to remove hydrophilic oxygen-containing groups and thereby minimize the influence of moisture in exhaust gas. As a result, a higher degree of denitration can be achieved even at high humidity, see the application as filed, page 15, line 23, through page 16, line 5.

In conclusion, Oikawa does not teach the heat treated carbon of the instant invention produced by heat treating a raw active carbon fiber in a non-oxidizing atmosphere. The deficiencies of Oikawa can not be remedied by combining it with Nishino as Nishino does not teach the heat treated carbon of the instant invention either. Since neither Oikawa, nor Nishino used alone or in combination anticipate the present invention, Applicants request withdrawal of the rejection.

OBJECTION UNDER 37 CFR § 1.75(c)

Claim 14 is objected under 37 CFR § 1.75(c) as being of improper dependent form. Applicants rewrote claim 14 as an independent claim to obviate the objection.

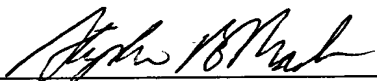
Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

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